



RECEIVED

1600

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/747,007A

AUG 11 2003
DATE: 07/31/2003
TIME: 09:49
TECH CENTER 1600/2900

Input Set : A:\seqfinal2.txt
Output Set: N:\CRF4\07312003\I747007A.raw

3 <110> APPLICANT: Ouellet, Therese
4 Miki, Brian M.
5 Foster, Elizabeth
6 Martin-Heller, Teresa
7 Tian, Lining
8 Brown, Daniel C.
9 Zhang, Peijun
10 Hattori, Jiro
11 Malik, Kamal
12 Wu, Keqiang
13 Theilmann, David Allan
14 Tropiano, Raymond
16 <120> TITLE OF INVENTION: Translational Regulatory Element
18 <130> FILE REFERENCE: 08-885707US1
20 <140> CURRENT APPLICATION NUMBER: 09/747,007A
21 <141> CURRENT FILING DATE: 2000-12-21
23 <150> PRIOR APPLICATION NUMBER: US 60/172,813
24 <151> PRIOR FILING DATE: 1999-12-21
26 <160> NUMBER OF SEQ ID NOS: 33
28 <170> SOFTWARE: PatentIn version 3.1
30 <210> SEQ ID NO: 1
31 <211> LENGTH: 2224
32 <212> TYPE: DNA
33 <213> ORGANISM: Nicotiana tabacum
35 <400> SEQUENCE: 1

ENTERED

36	tctagactta	cagaaagtct	ctaacacgtg	agggaatgat	ccctttcctt	acctccctgt	60
38	agagatattg	gcttttcaac	aactagtaca	taaatatgcg	actttgaccg	tgtatcccca	120
40	gtcaaaaggg	aacttcaccc	tcctagttct	ttattttcaa	catacatggg	gagtaatgct	180
42	aaatttacat	agaagaataa	taaaatgaac	tgtaactaat	gatgtactgt	tccaaagaga	240
44	tgaggacgtc	aacatattta	ttccttcagc	ccttttcaga	ataataccat	aagtagaaga	300
46	aatggcacat	aaaatgaagt	cctcggaag	tcaaagttaa	atctgaaccc	accagctaa	360
48	cccagtgaac	tcaactttcc	tggatagatc	agcactcctt	catgacattg	catgccttct	420
50	ctttaaagag	ccgcttgatc	tctgaaaacc	aatgaatct	ccacagagag	atttcgagct	480
52	ccatgagacg	ccttttggtt	cttgatttac	taaacctata	aaaatgaaag	gaagtaggac	540
54	aactgcattt	tgccgcttaa	gatgcttcgg	cgctttgtga	attttaagtc	atgagaaagt	600
56	acaatgttgg	aatctcacat	tagaacaatg	tatttgtaat	aacctaggaa	agcaaagcta	660
58	gaaggagagt	gcagctaaat	cttctttctac	cttgttatcc	ttgcatttct	tgaggaggag	720
60	gaactgtcct	cgcaggtgca	aaatctgcag	tgcgccccaaa	ggatattcag	aagtatatta	780
62	caacatgttt	aatggttaac	caagtgaag	atcaaaatag	tcattagaac	aaaatgcgtg	840
64	ctcagagcgt	atctactagt	tcatacaacc	agtacacatc	tctgaatttc	atctcttgcc	900
66	gttgaactaa	gtcaattggg	caaagacgca	taacatgaga	gacactcata	aaacggctga	960
68	ataacatgca	gaagacgtca	tgcgccttag	gtctcattat	gcattgagatt	attagttata	1020
70	tgctccttca	gtttgactag	aaatgaaaaa	tcagttaagc	ctgtaacgaa	atgataacct	1080

RAW SEQUENCE LISTING

DATE: 07/31/2003

PATENT APPLICATION: US/09/747,007A

TIME: 10:29:49

Input Set : A:\seqfinal2.txt

Output Set: N:\CRF4\07312003\I747007A.raw

```

72 gcttcaagaa gattagacta tttttcataa aatatgcagt gccgtgaaat agatacttaa 1140
74 tcttaggcag gaaaaatctt ctattgggcc ataataagaa ctaccaatta gaaaggaggt 1200
76 agaaagctcc gatactgtta tgaaggccat tctaagtgt gatgtgaatt tcccaataca 1260
78 aatgacaac aaaaacaaaa gcctcaatcc taagctagtt ggggtcgcta tataaatcct 1320
80 cgacatccat ttaactccac ttggaçtçct ttctttccaa tattttaata ttgttagatt 1380
82 aatcataaaa ttgcttagct ttctactggc acttaaccta ctgcaaccct cctcttctgg 1440
84 gattccaaca caaacaacta agaggaattt gaaaaaaaga aagcaaatgt gagaagagac 1500
86 aaaatgtaca atgatacctc ttcttgcagc aaaggaggca ggttctctgc tgagacaagg 1560
88 ttctctatct cctgcaagac cttcgtatct tttatcgag accatgtatg tggaggtaac 1620
90 gccagcaata gtgctgtcag cacatcgttg cttgcagggg atcttctgca agcatctcta 1680
92 tttcctgaag gtctaaccct gaagatttaa gatttaatta cgtttataat tacaaaattg 1740
94 attctagtat ctttaattta atgcttatac attattaatt aatttagtac tttcaatttg 1800
96 ttttcagaaa ttattttact attttttata aaataaaaagg gagaaaatgg ctattttaa 1860
98 actagcctat tttatttcaa ttttagctta aaatcagccc caattagccc caatttcaaa 1920
100 ttcaaattgt ccagcccaat tcctaaataa cccaccçcta acccgcccg tttccçcttt 1980
102 tgatccaggc cgttgatcat ttgatcaac gccagaatt tccçcttttç cttttttaat 2040
104 tcccaaacac cçtaactct atcccatttc tcaccaaccg ccacatatga atcctçttat 2100
106 ctctcaaact ctctgaacc ttccçctaac cçtagcagcc tctcatcacc ctcacçtcaa 2160
108 aaccçccgg aatacatggc ttctcaagcc gtggaaacçt tatactcacc tccçtttçct 2220
110 cttta 2224

```

113 <210> SEQ ID NO: 2

114 <211> LENGTH: 188

115 <212> TYPE: DNA

116 <213> ORGANISM: NdeI-SmaI fragment of tCUP (T1275)

118 <400> SEQUENCE: 2

```

119 catatgaatc ctçttatçtc tcaaactçtc tçgaacçttc cçtaaccçt agcagçctçt 60
121 catcatcçtc acçtcaaaac ccaccggaat acatggçttc tcaagccgtg gaaacçttat 120
123 actcacçtcc ctttçctçtt acagtaçtcg gccgtcçgacc gçggtacccg ggtggtcagt 180
125 cççttatg 188

```

128 <210> SEQ ID NO: 3

129 <211> LENGTH: 129

130 <212> TYPE: DNA

131 <213> ORGANISM: delta N with Kozak sequence

133 <400> SEQUENCE: 3

```

134 agatçtatcc tçttatçtçt caaactçtçt cgaacçttcc cçtaaccçta gçagçctçtc 60
136 atcatcçtca cçtcaaaacc caccggccac catggçctçt agaggacçcc ggggtggçcag 120
138 tccçttatg 129

```

141 <210> SEQ ID NO: 4

142 <211> LENGTH: 119

143 <212> TYPE: DNA

144 <213> ORGANISM: deltaN without Kozak sequence

146 <400> SEQUENCE: 4

```

147 agatçtatcc tçttatçtçt caaactçtçt cgaacçttcc cçtaaccçta gçagçctçtc 60
149 atcatcçtca cçtcaaaacc caccggçtca gaggatçccc ggggtggçcag tccçttatg 119

```

152 <210> SEQ ID NO: 5

153 <211> LENGTH: 23

154 <212> TYPE: DNA

155 <213> ORGANISM: Linker 1

157 <400> SEQUENCE: 5

RAW SEQUENCE LISTING

DATE: 07/31/2003

PATENT APPLICATION: US/09/747,007A

TIME: 10:29:49

Input Set : A:\seqfinal2.txt

Output Set: N:\CRF4\07312003\I747007A.raw

```

158 ggatctatcc tcttatctct caa                                23
161 <210> SEQ ID NO: 6
162 <211> LENGTH: 24
163 <212> TYPE: DNA
164 <213> ORGANISM: Linker 2
166 <400> SEQUENCE: 6
167 atctctcaaa ctctctcgaa cctt                                24
170 <210> SEQ ID NO: 7
171 <211> LENGTH: 18
172 <212> TYPE: DNA
173 <213> ORGANISM: Linker 3
175 <400> SEQUENCE: 7
176 ttcccctaac cctagcag                                        18
179 <210> SEQ ID NO: 8
180 <211> LENGTH: 24
181 <212> TYPE: DNA
182 <213> ORGANISM: Linker 4
184 <400> SEQUENCE: 8
185 atcatcctca cctcaaaacc cacc                                24
188 <210> SEQ ID NO: 9
189 <211> LENGTH: 24
190 <212> TYPE: DNA
191 <213> ORGANISM: Linker 5
193 <400> SEQUENCE: 9
194 agcctctcat catcctcacc tcaa                                24
197 <210> SEQ ID NO: 10
198 <211> LENGTH: 602
199 <212> TYPE: DNA
200 <213> ORGANISM: Nicotiana tabacum, rent 1
202 <220> FEATURE:
203 <221> NAME/KEY: misc_feature
204 <222> LOCATION: (1)..(602)
205 <223> OTHER INFORMATION: where n is a or t or g or c
208 <400> SEQUENCE: 10
209 aattgtaagc gggataacaa tttcacacag gaaacagcta tgaccatgat tacgccaagc    60
211 ttttaatacg actcactata gggaaagctt ataattacaa aattgattct agtatTTTTa    120
213 atttaatatatt ttacattat taattaattt agaagtTTTta atTTTTTTTc agaaatcatt    180
215 ttactatTTTT tataaaaaaca aaagggaaaa gtggttattt aaataactagc cctatttcat    240
217 ttcaattata gcctaaaatc agccccaatt aaccccaatt ccaaattcaa acgggccagc    300
219 ccaattccta aaatgaccog ctccctaaccg gcttttccaa ccgcccgggt ttccccTTTT    360
221 gatccaggct gttgatcatt ttgatcaacg gccagaattt cccctttcct ttttaattcc    420
223 caaacacccc ccaaccttat ccggtttctc accaaccgcc agatctatcc tcttatctct    480
225 caaactctct cgaaccttcc cctaacccta gcagcctctc atcatcctca cctcaaaacc    540
W--> 227 caccggccac catggcctct agaggatccc cgggtgggtca gtcccttatg ttacgtcctn    600
229 aa                                                        602
232 <210> SEQ ID NO: 11
233 <211> LENGTH: 610
234 <212> TYPE: DNA
235 <213> ORGANISM: Nicotiana tabacum, RENT 2

```

RAW SEQUENCE LISTING

DATE: 07/31/2003

PATENT APPLICATION: US/09/747,007A

TIME: 10:29:50

Input Set : A:\seqfinal2.txt

Output Set: N:\CRF4\07312003\I747007A.raw

```

237 <400> SEQUENCE: 11
238 atgttggtg gaattgtgag cgggataaca atttcacaca ggaaacagct atgaccatga      60
240 ttacgccaaag ctctaatacg actcactata gggaaagctt ataattacaa aattgattct      120
242 agtatttttta atttaatat tatacattat taattaactt agtactttca attcgttttc      180
244 aaaaattattt ttactatttt ttgtaaaata aaagggagaa aatggctatt taaatactag      240
246 ccctattttta tttcaatttt agcctaaaat cagcccccaa ttaaccccaa tttcaaatc      300
248 aaatgggaca gcccaattcc taaaataacc cgcccctaac cctcttatcc aaccaccccg      360
250 atttcccctt ttgatccagg ttgttgatca ttttgatcaa cgaccagaat tttccccttc      420
252 ctgttttttaa ttcccaaaca ccccccaacc ctatcccatt tctaccaac cgccagatct      480
254 atcctcttat ctctcaaaact ctctcgaacc ttcccctaac cctagcagcc tctcatcatc      540
256 ctcacctcaa aaccacccgg ccaccatggc ctctagagga tccccgggtg gtcagtccct      600
258 tatgtgcgtc                                     610
261 <210> SEQ ID NO: 12
262 <211> LENGTH: 507
263 <212> TYPE: DNA
264 <213> ORGANISM: Nicotiana tabacum,RENT 3
266 <220> FEATURE:
267 <221> NAME/KEY: misc_feature
268 <222> LOCATION: (1)..(507)
269 <223> OTHER INFORMATION: where n is a or t or g or c
272 <400> SEQUENCE: 12
273 ttgattctag tttttttaat ttaatattta tacattatta attaatttag ttctttcaat      60
275 ttgttttcag aaattatttt actatttttt ataaaaataa agggagaaaa tggctattta      120
277 aataccagcc ctattttatt tcaattttta cctaaaaatca gcccagtta gcccacaaag      180
279 gcccatccca attcctaaaa taactcgccc ctaaccgcgt tatccaaacc gcccggttc      240
281 ccttttgatc caggccgttg atcattttga tcaacgacca gaatttcccc ttcccttttt      300
283 taattcccaa acaccgcaa acctatccca tttctacca accgccagat ctatcctctt      360
285 atctctcaa ctctctcgaa ccttccccta accctagcag cctctcatca tctcacctc      420
W--> 287 aaaaccacc ggccaccatg gcctctagag gatccccggg tggtcagtcc cttatgtnac      480
289 gncctaaatg nccgncctgn nnnnnnc                                     507
292 <210> SEQ ID NO: 13
293 <211> LENGTH: 599
294 <212> TYPE: DNA
295 <213> ORGANISM: Nicotiana tabacum,RENT 5
297 <220> FEATURE:
298 <221> NAME/KEY: misc_feature
299 <222> LOCATION: (1)..(599)
300 <223> OTHER INFORMATION: where n is a or t or g or c
303 <400> SEQUENCE: 13
304 ggaattgtga gcggataaca atttcacaca ggaaacagct atgaccatga ttacgccaaag      60
W--> 306 ctctaatang actcactata gggaaagctt ataattacaa atttgattct agtattttta      120
308 atttaatat tatacattat taattaattt agtactttca atttgttttc agaaatcatt      180
310 ttactatggt ttataaaaata aaagggagaa aatggctatt taaatactag cctattttta      240
312 tttcaatttt agcctaaaat cagccccaat taacccttat ttcaaattca aacgggctag      300
314 ccaggttcct aaaataaacc tcccctaacc cgcttatcca acccgccctg tttccccttt      360
316 tgatccaggc cggtgatcat tttgatcaac gaccaaattt tcccctttcc ttttttaatt      420
318 cccaaacacc cccaacccta tccattttct caccaaccgc cagatctatc ctcttatctc      480
320 tcaaactctc tcgaaccttc ccctaaccct agcagcctct catcatctc acctcaaaac      540
322 ccaccggcca ccatggcctc tagaggatcc ccgggtggtc agtcccttat gttacgtcc      599

```

RAW SEQUENCE LISTING

DATE: 07/31/2003

PATENT APPLICATION: US/09/747,007A

TIME: 10:29:50

Input Set : A:\seqfinal2.txt

Output Set: N:\CRF4\07312003\I747007A.raw

```

325 <210> SEQ ID NO: 14
326 <211> LENGTH: 616
327 <212> TYPE: DNA
328 <213> ORGANISM: Nicotiana tabacum, RENT 7
330 <220> FEATURE:
331 <221> NAME/KEY: misc_feature
332 <222> LOCATION: (1)..(616)
333 <223> OTHER INFORMATION: where n is a or t or g or c
336 <400> SEQUENCE: 14
337 tttatgcttc cggctcgtat gttgtgtgga attgtgagcg gataacaatt tcacacagga      60
339 aacagctatg accatgatta cgccaagctc taatacgact cactataggg aaagcttata      120
341 attacaaaat tgattatagt acttttaatt taatatatat acattattaa ttaatttagc      180
343 actttcaatt tattttcaga aaccatttta ctatttttta taaaataaaa gggacaaaat      240
345 ggctatttaa ataccaacac tattttattt caatttttagc ctaaaatcaa acccaattaa      300
347 ccccaaacgg gccagcccaa ttcctaaaac aaccgcggcc taaccgcgctt atccaaccgc      360
349 ccgatttcc tcttttgatc caggccgttg atcattttga tcaacggcca gaatttcccc      420
351 tttccttttt tcattcccaa acacccccaa acctatccca tttctacca accgccagat      480
353 ctatcctctt atctctcaaa ctctctcgaa ccttccccta accctagcag cctctcatca      540
355 tcttcacctc aaaaccacc gccaccatg gcctctagag gatccccggg tggtcagtcc      600
W--> 357 cttatgttac gtcctn      616
360 <210> SEQ ID NO: 15
361 <211> LENGTH: 24
362 <212> TYPE: DNA
363 <213> ORGANISM: SCAN 1
365 <400> SEQUENCE: 15
366 aagactcaaa ctctctcgaa cctt      24
369 <210> SEQ ID NO: 16
370 <211> LENGTH: 24
371 <212> TYPE: DNA
372 <213> ORGANISM: SCAN 2
374 <400> SEQUENCE: 16
375 atctgagaaa ctctctcgaa cctt      24
378 <210> SEQ ID NO: 17
379 <211> LENGTH: 24
380 <212> TYPE: DNA
381 <213> ORGANISM: SCAN 3
383 <400> SEQUENCE: 17
384 atctctcggg ctctctcgaa cctt      24
387 <210> SEQ ID NO: 18
388 <211> LENGTH: 24
389 <212> TYPE: DNA
390 <213> ORGANISM: SCAN 4
392 <400> SEQUENCE: 18
393 atctctcaaa gagtctcgaa cctt      24
396 <210> SEQ ID NO: 19
397 <211> LENGTH: 24
398 <212> TYPE: DNA
399 <213> ORGANISM: SCAN 5
401 <400> SEQUENCE: 19

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/747,007A

DATE: 07/31/2003
TIME: 10:29:51

Input Set : A:\seqfinal2.txt
Output Set: N:\CRF4\07312003\I747007A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:10; N Pos. 600

Seq#:12; N Pos. 478,482,491,495,500,501,502,503,504,505,506

Seq#:13; N Pos. 69

Seq#:14; N Pos. 616